MANAGEMENT PROBLEMS AND OPPORTUNITIES

The management goals, objectives, and strategies for the Eleven Point River Watershed were developed using information collected from the Eleven Point Watershed Assessment and Inventory (WAI) and direction provided by the MDC Strategic Plan, and the Fisheries Division Five Year Strategic Plan (1995-2000). Objectives and strategies were written for instream and riparian habitat, water quality, aquatic biota, and recreational use. All goals are of equal importance, with objectives listed in prioritized order whenever possible. This plan includes only those activities and results the Fisheries Division of MDC can reasonably expect to achieve or influence during the next 25 years. Completion of these objectives will depend upon their status in overall regional and division priorities and the availability of human resources and funds.

GOAL I: IMPROVE RIPARIAN AND AQUATIC HABITATS IN THE ELEVEN POINT WATERSHED.

Status: Problems affecting riparian and aquatic habitats include insufficient wooded riparian corridors, stream bank erosion, gravel dredging, and other point and nonpoint sources of pollution. Protecting and enhancing the riparian corridor is essential to obtaining quality aquatic habitats. A timbered stream corridor significantly influences many components of the stream ecosystem including stream bank stability, water quality, ground water absorption and recharge to the stream, amount of physical instream habitat, spatial and structural complexity of physical in-stream habitat, and the food web.

Objective 1.1: With the assistance of willing landowners, over a 25-year period, increase by 50% the proportion of streams with a timbered corridor width >100 feet and decrease by 75% the amount of unvegetated stream bank.

Strategy: Using the following list of prioritized watersheds, (developed through our evaluations of forest cover, losing streams, public ownership, point and nonpoint source pollution, and fish community data), direct our management efforts towards those watersheds of highest priority: (1) Middle Fork, (2) Upper Eleven Point River, (3) Fredrick Creek, (4) Lower Eleven Point River.

- 1. Utilizing state and federal assistance programs, such as the MDC-DNR incentive programs and educational efforts, implement riparian and aquatic habitat protection measures on streams.
- 2. Using videotapes, field investigations, aerial photography, and satellite imagery, document and update the current and future conditions of riparian corridors and streambanks. Future projects such as the Missouri Resource Assessment Partnership Land Cover Classification need to be encouraged in order to insure that adequate data is available that will allow efficient analysis of riparian conditions over time.

GOAL II: IMPROVE SURFACE AND SUBSURFACE WATER QUALITY IN THE ELEVEN POINT WATERSHED.

Status: Water quality within the watershed is relatively good. High fecal coliform levels, nutrient loading, and sediment and gravel deposition are the most severe threats to water quality. Poor land use practices, gravel dredging, and increasing cattle populations are the primary causes of the water quality

problems. Lead prospecting has occurred throughout the watershed. Lead prospecting and lead mining are potential threats to water quality in the watershed.

Objective 2.1: Assure that watershed streams meet state standards for water quality.

Strategy: Protecting riparian corridors will reduce surface runoff and provide stream channel and bank stability. Streams also need protection from other pollutants. Education of the citizenry and land owners on water quality issues and land stewardship is the best hope for improving water quality.

Encouragement of appropriate agencies to enforce existing water quality laws is also required to obtain satisfactory water quality.

- 1. Through media contacts, personal contacts, literature development, and speaking engagements to groups such as the Scenic River Watershed Partnership Work Group, private landowners etc; inform the public of water quality problems (e.g., excessive siltation, animal waste runoff, gravel dredging, septic system failure etc.) and potential solutions to these problems.
- 2. Encourage the establishment of additional state water quality standards for groundwater in order to ensure better treatment of discharges to losing streams.
- 3. Establish a structured water quality sampling program within the watershed in cooperation with the Missouri Department of Natural Resources and Stream Teams.
- 4. Assist with training and involvement of Stream Teams in water quality monitoring and advocacy in the Eleven Point River Watershed.
- 5. Assist with enforcement of existing water quality laws by reviewing 404 permits, cooperating with other state and federal agencies to investigate pollution and fish kill reports, collecting water quality related data, and recommending measures to protect aquatic communities. Additional emphasis should be placed on losing streams.
- 6. Encourage and assist with additional dye tracing studies within the watershed in order to further determine intra-watershed and inter-watershed ground water movement as well as recharge area of selected springs within the watershed with an emphasis on publicly owned spring outlets.
- 7. Promote "greenways" in urban and residential areas i.e. Willow Springs, Alton, etc.
- 8. Encourage the entry of water quality data into a Geographic Information System (GIS) useable format in order to facilitate effective data updating and analysis. This includes the creation of a beneficial use data layer based on current Rule 10 CSR 20-7.031 of the Rules of Department of Natural Resources Division 20-Clean Water Commission Chapter 7-Water Quality, Tables G and H.
- 9. Insure all department areas follow best management practices.
- 10.Encourage limiting livestock access in riparian areas through education and/or incentive programs for private landowners.

GOAL III: MAINTAIN THE ABUNDANCE, DIVERSITY, AND DISTRIBUTION OF AQUATIC BIOTA AT OR ABOVE CURRENT LEVELS WHILE IMPROVING THE QUALITY OF THE SPORT FISHERY IN THE ELEVEN POINT WATERSHED.

Status: An assemblage of 66 fish species, 23 naiad species, 6 crayfish species, and 19 families of benthic

macro-invertebrates have been identified throughout the Eleven Point Watershed. A total of 77 "species of conservation concern" are known to occur in the watershed. This includes four species of fish, one species of amphibian, three species of mussel, and two species of crayfish. Major sport fish include rainbow trout, walleye, smallmouth bass, largemouth bass, shadow bass, white crappie, and channel catfish. Exotic aquatic species found in the watershed include common carp and Asian Clam.

Objective 3.1: Maintain the diversity, abundance, and distribution of native non-sport fish and invertebrate communities at or above current levels.

Strategy: High priority should be placed on protecting state and federally listed species and unique community assemblages. Focusing enhancement and protective efforts on a few species can be effective in helping other species that share the same habitat. Detecting changes in faunal composition and abundance can be accomplished by conducting routine surveys of fish and invertebrate communities. Determining reasons for any changes will be more difficult since a variety of factors (e.g., interspecific and intraspecific competition, water quality, habitat condition, etc.) could be involved.

- 1. Assist with recovery efforts for any state or federally-listed rare or endangered species in the watershed.
- 2. Survey fish communities every 10 years at historical sampling sites in the watershed using standardized sampling techniques. Establish additional sampling sites as necessary with priority given to Missouri Department of Conservation Areas. Document changes in species diversity, abundance, and or distribution.
- 3. Using GIS, document locations and identify unique fish assemblages associated with natural features and special habitats such as oxbow lakes, spring branches, and marshes.
- 4. Develop criteria for identifying instream habitat needs (e.g., presence of listed species, extent of timbered stream corridor, size of stream, land use, soils, presence of permanent water, presence of game fish, natural features, critical habitat, etc.) and develop a prioritized list of streams and stream reaches needing instream habitat restoration with priority given to stream reaches on public land.
- 5. If appropriate, initiate research projects to investigate reasons for significant changes in faunal abundance and distribution and recommend corrective measures.
- 6. Coordinate with Missouri Department of Conservation Research Staff and other groups (i.e. University of Missouri, etc.) to conduct a survey of mussels on all fifth order and larger streams. Resurvey every 10 years to document changes in species abundance, diversity, and distribution.
- 7. Coordinate with Missouri Department of Conservation Research Staff and other groups (i.e., MDNR, University of Missouri, etc.) to conduct a survey of benthic invertebrates on all fifth order and larger streams. Resurvey every 10 years to document changes in species abundance, diversity, and distribution.

Objective 3.2: Maintain or improve populations of sport fish while maintaining a stable and diverse fish community.

Strategy: Proper management of sport fish populations will depend on obtaining adequate samples to determine the status of the fishery and angler attitudes. Sport fish survey data on the upper and middle sections of the Eleven Point River are relatively current, however, insufficient data exist on the lower section of the Eleven Point River for setting specific management objectives. Once adequate information

is obtained, future management efforts will be directed toward setting appropriate fishing regulations, protecting and improving fish habitat, and stocking where appropriate.

- 1. Develop and initiate a regular sampling regime for high priority sport fishes to evaluate the status of their populations and provide baseline data for management decisions.
- 2. Complete fish habitat improvement projects at MDC-managed areas where sport fish habitat is limited.

Objective 3.3: Prevent detrimental impacts on native fauna of the Eleven Point Watershed by exotic aquatic species.

Strategy: Controlling the introduction of exotic species into the state is the easiest way to prevent detrimental impacts to native fauna. Once a detrimental exotic species becomes established, research will be needed to seek ways to contain or eliminate the exotic from the system.

- 1. Continue Division participation in the Missouri Aquaculture Advisory Council (MAAC) and other organizations and advocate controlling the introduction of exotic fauna into state waters.
- 2. Monitor for potentially harmful exotic species (i.e., zebra mussel or grass carp).

This can be performed during fish community surveys.

GOAL IV: INCREASE PUBLIC AWARENESS AND PROMOTE WISE USE OF AQUATIC RESOURCES IN THE ELEVEN POINT WATERSHED.

Status: Angler survey information indicates substantial fishing activity is occurring on the Eleven Point River from Thomasville to the Arkansas state line. Canoeing is also a popular activity along this section of the Eleven Point River. However, fishing pressure is relatively low on tributaries to the Eleven Point River, such as, Middle Fork, Spring Creek, Hurricane Creek, and Fredrick Creek.

Objective 4.1: Within compliance with USFS guidelines, assure access sites and stream frontage areas are developed at desirable locations, and in sufficient numbers, to encourage dispersal of public use throughout the watershed.

Strategy: Acquisition and development of additional stream access sites in order to provide additional recreational opportunities throughout the watershed.

- 1. Cooperate with USFS to develop new and upgrade existing river accesses.
- 2. Pursue the acquisition of additional stream access sites based on availability and site suitability in order to provide accesses in areas where use is currently limited due to a lack of public access thus dispersing public use within the watershed.
- 3. Pursue the acquisition of stream frontage sites based on availability and site suitability in order to provide access to public stream frontage in areas where use is currently limited due to a lack of public stream frontage thus dispersing public use. within the watershed.
- **Objective 4.2:** Increase awareness of stream recreational opportunities and appreciation of stream ecology and advocacy to a level that will encourage a widespread and diversified public interest in the watershed.

Strategy: Careful publicity which focuses state and federally listed species as well as abundant local fish

stocks, such as redhorse suckers, longear sunfish, walleye, shadow bass, and smallmouth bass can maintain and promote a continued appreciation of these types of resource elements.

Providing opportunities for the public to learn about holistic stream ecology will, hopefully, create stream advocates.

- 1. Write fishing prospectus for public release to local media, describing the specific fisheries and angling opportunities associated selected streams within the watershed as additional data becomes available.
- 2. In cooperation with the United States Forest Service, develop and maintain fishing regulation signs at all river access sites.
- 3. Provide the local and statewide media with timely "How to", "When to" articles and interviews that focus attention on activities and places such as: wade gigging; wade fishing; seasons; baits; methods and techniques for catching particular species; life histories, habitats and behaviors of various aquatic animals.
- 4. Publicize the acquisition, development and opening of new public access sites.
- 5. Conduct recreational use surveys at 10 year intervals in conjunction with creel surveys to determine levels of public use and satisfaction.
- 6. Emphasize stream ecology and good stream stewardship (utilizing aquaria and stream tables where applicable) during presentations to school groups, youth organizations and private landowner contacts.
- 7. Conduct outdoor youth events, such as Ecology Day at stream sites with field activities that demonstrate stream ecology and good stream stewardship.
- 8. Facilitate the development and activity of Stream Teams, Scenic River Watershed Partnership Work Group, or other groups interested in adopting or otherwise promoting good stewardship and enjoyment of watershed streams.
- 9. Make public presentations that focus on the MDC Streams For The Future program.
- 10. Provide promotional, educational, and technical stream materials to groups, fairs and other special events.
- 11. Develop brochure which promotes best management practices within the watershed.